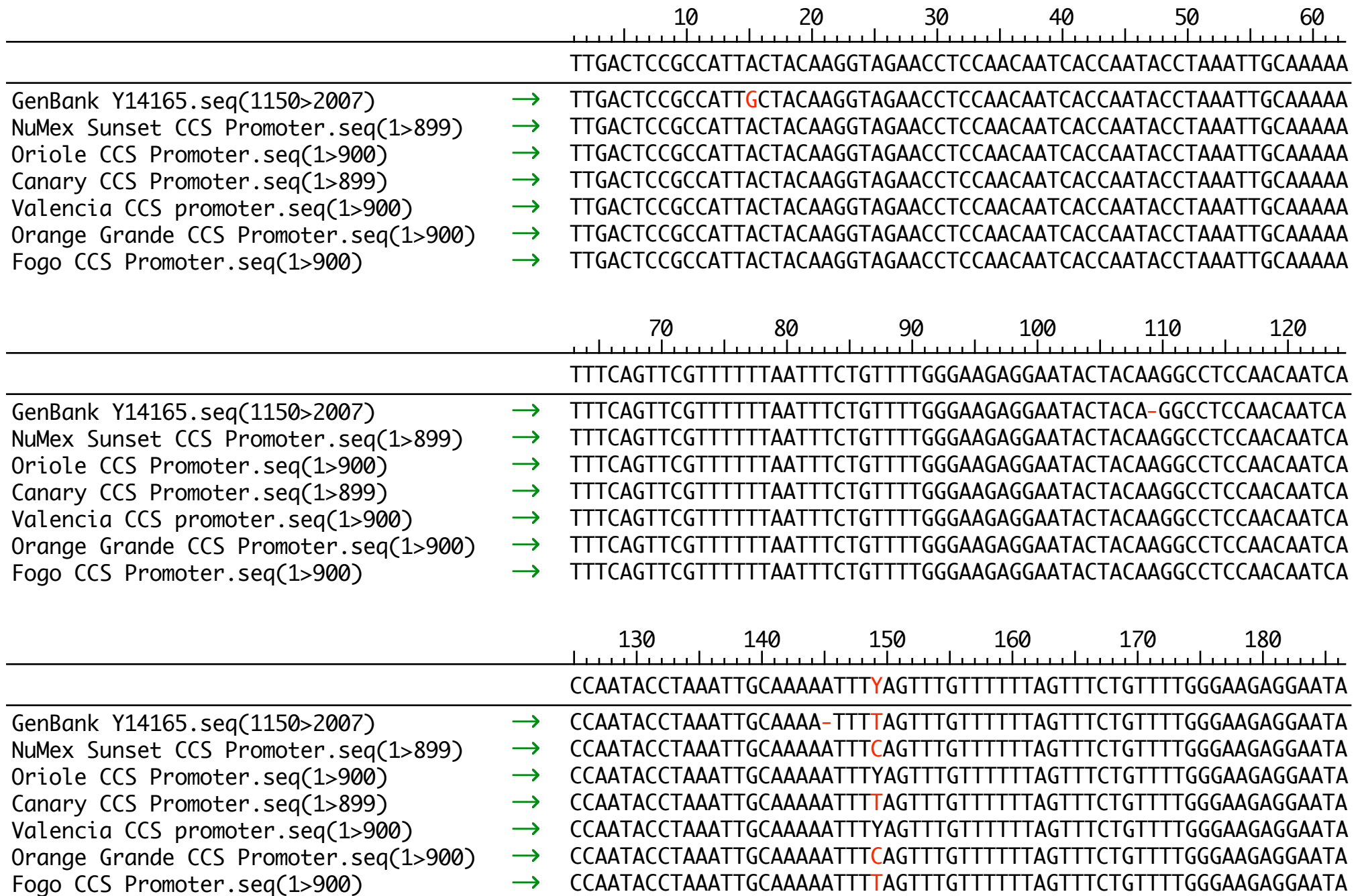


Carotenoid Accumulation in Orange Pigmented *Capsicum annuum* Fruit, Regulated at Multiple Levels

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Figure S1. Alignment of *Ccs* promoter region (~860 bp 5' to ATG start codon) cloned and sequenced from genomic DNA of NuMex Sunset, Oriole, Canary, Calencia, Orange Grande and Fogo. Multiple independent clones for the *Ccs* promoter from each cultivar were obtained. Alternate forms of the sequence at three positions are indicated with the symbols Y (C or T) or R (A or G). The reference sequence from GenBank Y14165 is included as well.

Figure S1. Alignment of Ccs promoter region.



		190	200	210	220	230	240	
		CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
GenBank Y14165.seq(1150>2007)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
NuMex Sunset CCS Promoter.seq(1>899)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
Oriole CCS Promoter.seq(1>900)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
Canary CCS Promoter.seq(1>899)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
Valencia CCS promoter.seq(1>900)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
Orange Grande CCS Promoter.seq(1>900)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
Fogo CCS Promoter.seq(1>900)	→	CTACAAGGTAAGGCCTCCAACAATCACCAATACCTAAATTGCAAAAATTTTCAGTTCGTATTT						
		250	260	270	280	290	300	310
		TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
GenBank Y14165.seq(1150>2007)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
NuMex Sunset CCS Promoter.seq(1>899)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
Oriole CCS Promoter.seq(1>900)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
Canary CCS Promoter.seq(1>899)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
Valencia CCS promoter.seq(1>900)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
Orange Grande CCS Promoter.seq(1>900)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
Fogo CCS Promoter.seq(1>900)	→	TCGTTTCTATTTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTA						
		320	330	340	350	360	370	
		AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
GenBank Y14165.seq(1150>2007)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
NuMex Sunset CCS Promoter.seq(1>899)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
Oriole CCS Promoter.seq(1>900)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
Canary CCS Promoter.seq(1>899)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
Valencia CCS promoter.seq(1>900)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
Orange Grande CCS Promoter.seq(1>900)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						
Fogo CCS Promoter.seq(1>900)	→	AATTGCAAAGTTCCGATTCATTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTA						

		380	390	400	410	420	430		
		GGGYCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
GenBank Y14165.seq(1150>2007)	→	GGGCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
NuMex Sunset CCS Promoter.seq(1>899)	→	GGGTCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
Oriole CCS Promoter.seq(1>900)	→	GGGYCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
Canary CCS Promoter.seq(1>899)	→	GGGCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
Valencia CCS promoter.seq(1>900)	→	GGGYCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
Orange Grande CCS Promoter.seq(1>900)	→	GGGYCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
Fogo CCS Promoter.seq(1>900)	→	GGGCTCCAACAATCACCAGTACCTAAATTGTAAAAATTTTCAGTTCGTTTTTTAGTTTCTAT							
		440	450	460	470	480	490		
		TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
GenBank Y14165.seq(1150>2007)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
NuMex Sunset CCS Promoter.seq(1>899)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
Oriole CCS Promoter.seq(1>900)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
Canary CCS Promoter.seq(1>899)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
Valencia CCS promoter.seq(1>900)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
Orange Grande CCS Promoter.seq(1>900)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
Fogo CCS Promoter.seq(1>900)	→	TTTGGGAAGTGAATAGTATAAGGTAGGACCTCCAACAATCACCAATACCTAAATTGCAAAA							
		500	510	520	530	540	550		
		GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGRTAGGACCTTCAA							
GenBank Y14165.seq(1150>2007)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGATAGGACCTTCAA							
NuMex Sunset CCS Promoter.seq(1>899)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGGTAGGACCTTCAA							
Oriole CCS Promoter.seq(1>900)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGRTAGGACCTTCAA							
Canary CCS Promoter.seq(1>899)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGATAGGACCTTCAA							
Valencia CCS promoter.seq(1>900)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGRTAGGACCTTCAA							
Orange Grande CCS Promoter.seq(1>900)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGRTAGGACCTTCAA							
Fogo CCS Promoter.seq(1>900)	→	GTTCCGATTCTTTTTTTAGTTTCTGTTTTGGAAAGAGAAATACTACAAGATAGGACCTTCAA							

		560	570	580	590	600	610	620
		CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
GenBank Y14165.seq(1150>2007)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
NuMex Sunset CCS Promoter.seq(1>899)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
Oriole CCS Promoter.seq(1>900)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
Canary CCS Promoter.seq(1>899)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
Valencia CCS promoter.seq(1>900)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
Orange Grande CCS Promoter.seq(1>900)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
Fogo CCS Promoter.seq(1>900)	→	CAATCACCAATACCTAAATTGCAAAAACCTTCAGTTCATTTTTTAGTTTCTGTTTTGGGAAGA						
		630	640	650	660	670	680	
		AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
GenBank Y14165.seq(1150>2007)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
NuMex Sunset CCS Promoter.seq(1>899)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
Oriole CCS Promoter.seq(1>900)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
Canary CCS Promoter.seq(1>899)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
Valencia CCS promoter.seq(1>900)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
Orange Grande CCS Promoter.seq(1>900)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
Fogo CCS Promoter.seq(1>900)	→	AGAATACTTCAAGGTAACAATCACCAATACCTAAATTA AAAATTTTCAGTTAGTTTTTTAGTT						
		690	700	710	720	730	740	
		TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
GenBank Y14165.seq(1150>2007)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
NuMex Sunset CCS Promoter.seq(1>899)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
Oriole CCS Promoter.seq(1>900)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
Canary CCS Promoter.seq(1>899)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
Valencia CCS promoter.seq(1>900)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
Orange Grande CCS Promoter.seq(1>900)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						
Fogo CCS Promoter.seq(1>900)	→	TCTGTTTTTGGGAAGAGGAATACTTTCTTTTGCTATATAAAGCCAAAGTAGGTACCTATAAG						

750 760 770 780 790 800

CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA

GenBank Y14165.seq(1150>2007) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 NuMex Sunset CCS Promoter.seq(1>899) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 Oriole CCS Promoter.seq(1>900) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 Canary CCS Promoter.seq(1>899) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 Valencia CCS promoter.seq(1>900) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 Orange Grande CCS Promoter.seq(1>900) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA
 Fogo CCS Promoter.seq(1>900) → CATCAATATTTTGTATTGCTTAGTGATTCCCCTAGTTCGGTATTTTCATTTTTTTTCACTATA

810 820 830 840 850 860

CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT

GenBank Y14165.seq(1150>2007) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATG
 NuMex Sunset CCS Promoter.seq(1>899) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT
 Oriole CCS Promoter.seq(1>900) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT
 Canary CCS Promoter.seq(1>899) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT
 Valencia CCS promoter.seq(1>900) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT
 Orange Grande CCS Promoter.seq(1>900) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT
 Fogo CCS Promoter.seq(1>900) → CTATATCACCTCCTCTCATAAATAGCCATTATAAATCTTGCATTTTCTCTAATGGAAACCCT

870 880 890 900

TCTAAAGCCTTTTCCATCTCCTTTACTTTCCA

NuMex Sunset CCS Promoter.seq(1>899) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCC
 Oriole CCS Promoter.seq(1>900) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCCA
 Canary CCS Promoter.seq(1>899) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCC
 Valencia CCS promoter.seq(1>900) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCCA
 Orange Grande CCS Promoter.seq(1>900) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCCA
 Fogo CCS Promoter.seq(1>900) → TCTAAAGCCTTTTCCATCTCCTTTACTTTCCA